Small Grain Forage Test

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Red Rock Cattle Company, Red Rock Elevation: 1800 feet

Variety	Average Yield[1/] (lbs./plot)	Height (inches)	Yield[2/] (lbs./acre)
Horseford Barley	12.3	40	8930 a
Triticale 313A	11.2	46	8131 ab
Hy Grazier Triticale	10.9	46	7913 ab
Mesa Oats	8.7	43	6316 b

[1/] All yields adjusted to a 10% moisture content.

[2/] Yields followed by the same letter are not significantly different at .05 level by Student-Newman-Keuls' Test. All yields are adjusted to a 10% moisture conent.

Crop History: Planted: January 3, 1977 with oats at 95 and tritcale and barley at 150 lbs./acre. Fertilizer: 150 lbs. N/acre. Irrigation: 3 irrigations of 6 inches each. Plot size: 3 x 20 feet. Harvested: April 25, 1977.

Agri-File Field Crops 232.12

Irrigated Perennial Pasture Test

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Milford Hall - Springerville Elevation: 6965 feet

This replicated test was established in August 1962. Observations concerning entries in this test are summarized below:

Apache County Blend: Most of the remaining plants are tall fescuegrass and sweet clover. Orchardgrass accounts for less than 10% of the stand. The mixture planted was 10 lbs. tall fescuegrass, 10 lbs. orchardgrass, and 3 lbs. yellow blossom sweet clover/acre. Experience in the county indicates that orchardgrass persists best on lighter, better-drained soils where salinity is not a problem. Also, orchardgrass is not as drouth tolerant and is not as competitive as tall fescuegrass.

Lincoln Smooth Bromegrass: About 60% bromegrass cover is remaining. Plants have been most productive during the earlier part of the growing season. The stand is now 25% white sweet clover. Bromegrass in this situation appears to be less productive than tall fescuegrass.

Birdsfoot Trefoil (Narrow-Leaf): Only a few plants were observed, accounting for less than 5% of the stand. Most cover in these plots is now white and yellow-blossom sweet clover with some tall fescuegrass.

Intermediate Wheatgrass: Some of this grass is still in evidence but the majority of the production from this area is from the sweet clover and fescuegrass.

Alta and Goar Tall Fescuegrass: Alta appears to be more productive than goar tall fescuegrass. Alta is the preferred variety for this area. Both varieties appear to be less productive when grown without sweet clover which increases yield, improves quality and adds nitrogen to the soil.

Latar Orchardgrass: Latar orchardgrass now accounts for less than 10% of the stand in plots where it was used in pure-stand plantings. In these plots sweet clover now produces most of the plant growth.

White and Yellow Blossom Sweet Clover: Sweet clover, especially white, is taller than other species in this test. Yellow blossom sweet clover plants are shorter, finer stemmed and more palatable. Sweet clover is included in the Apache County Blend because it increases forage yield and quality, provide nitrogen for the grass and usually does not cause a bloat problem.

Alfalfa - Bromegrass - Orchardgrass Blend: The stand is less dense than that in the other plots. There is much encroachment of sweet clover, white and yellow. Bloat has not been a problem here, probably because the alfalfa in the stand is limited and pasturing has been delayed until plants are mature or dormant. Plants in all plots have been used for pasture during the winter and early spring in this test.

Agri-File Field Crops 232.10

Cost of Producing Forage and Grain in Arizona

Dr. Scott Hathorn, Jr.
Extension Economist

Alfalfa hay production in Arizona is concentrated in two counties--Maricopa and Yuma--where 78 percent of the crop was produced in 1977 (see Table 1). In 1977 Arizona produced 1.365 million tons of alfalfa hay on 210,000 acres for an average yield of 6.5 tons per acre. Comparing 1977 data with that for the 1972-76 period average, acreage remained stable and the yield per acre increased slightly from 6.4 tons to 6.5 tons.

Wheat production is concentrated in Maricopa, Pinal, and Yuma Counties where 89 percent of the 1977 crop was produced. Arizona produced 302,400 tons of wheat in 1977 on 140,000 acres with an average yield of 2.16 tons per acre. Compared with 1972-76 five year average, 1977 Arizona wheat acreage declined 44 percent.

Maricopa and Pinal Counties are the principal producers of barley, producing 75 percent of the total crop in 1977. Total production in 1977 was 100,320 tons on 55,000 acres with an average yield of 1.83 tons per acre. Barley acreage in 1977 was down 29 percent from the 1972-76 average.

Sorghum grain is produced primarily in Cochise, Graham, Maricopa and Yuma Counties where 90 percent of the 1977 crop was produced. Arizona produced 201,600 tons of grain sorghum in 1977 on 90,000 acres with an average yield of 2.24 tons per acre. Compared to the 1972-76 average, the acreage devoted to grain sorghum declined 17 percent in 1977.

Although corn is produced in several counties with Cochise County as the principal producer, it ranks fourth in order of production below wheat, sorghum, and barley.

The profit contribution margin (sales less the variable expenses of production) was sufficient to cover all overhead expenses of 1978 alfalfa hay production and to return a profit of $7.00 and $6.25 per ton in Pima and Yuma Counties, respectively (see Table 2). In the other counties, the profit contribution margin was positive (greater than zero) but fell short of covering all overhead expenses of production.

Yuma County was the only county where 1978 wheat produced a profit (see Table 3). In all other counties considered, the profit contribution margin was greater than zero but not sufficiently large to cover all overhead expenses of production.

In the case of 1978 sorghum grain production the story is the same as for wheat. Yuma County showed a profit while the other counties did not (see Table 4). Again, the profit contribution margin was not large enough to cover all of the overhead expenses of production.

In a majority of the cases alfalfa and grain crops are grown in a crop mix containing cotton. As long as the profit contribution margin is positive and greater than zero the grower will make more profit from the crop mix by including the hay or grain crop in the crop mix, even though the enterprise itself does not show a profit. From observation, it appears that Arizona growers are well aware of this economic axiom and that they also put it into practice.